Documentation Sheet

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Abstract

Surface modeling of aerospace structures is required a priori, for RF field analysis of the concave interior environment. A typical manned space module is modeled by hybridizing finite segments of the right circular cylinder and the general paraboloid of revolution (GPOR) frustum. Similarly surface modeling of a typical launch vehicle is done by hybridizing a GPOR, a right circular cylinder and a conical frustum. As the surface modeling is done using parametric equations, it is readily amenable to the implementation of quasi-analytical ray tracing method for RF field analysis inside the launch vehicles.